

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

In the application of:	)	
Morin et al.	)	Group Art Unit : 1771
Filed : September 29, 2000	)	
For : Method of Manufacturing Low	)	
Contaminant Wiper	)	Examiner: John J. Guarrielo
Application No.: 09/676,161	)	
	)	

**Affidavit Under 37 CFR § 1.131**

Honorable Commissioner for Patents & Trademarks  
PO Box 1450  
Alexandria, VA 22313-1450

Sir :

County of Spartanburg       )  
  )  
State of South Carolina       )

I, Brian Morin, after being duly sworn on oath, depose and say that:

1. I, together with Daniel T. McBride and Loren W. Chambers, am a co-inventor of the invention claimed in the above identified patent application.
2. Prior to May 6, 1997, we conceived of the idea of reducing the contaminants associated with polyester wipers, by reducing the temperatures under which the polyester fiber, fabrics and wipers are traditionally processed.
3. Prior to May 6, 1997, we undertook a series of experiments in which polyester fabric of the type used for cleanroom wipers was dried in a tenter frame oven at temperatures ranging from 250° to 400°. The fabric was then cut into wipers, and washed in a "pilot" cleanroom laundry. The particle release count of particles greater than 0.5 microns was measured according to Biaxial Shake Test IEST-RP-CC004.2 §5.2.
4. Attached hereto as Exhibit A-1 is an excerpt (copy) from my laboratory notebook. The date of the experiment has been redacted, but it is prior to May 6, 1997. Additionally, attached hereto as Exhibit A-2 is a copy of an activity report submitted to my supervisor, Jerry Cogan, summarizing the results of the

Exhibit A

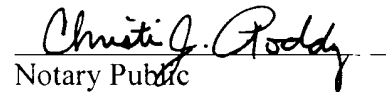
experiment. The date of the activity report, as well as references to unrelated projects, has been redacted, but the date of the report is prior to May 6, 1997.

5. Based on the results of the aforementioned experiments, my co-inventors and I have developed operating temperature specifications for wiper manufacture. We were also able to quantify particle release counts for presaturated wipers, dry wipers and unwashed wipers, as well as other wiper parameters, such as absorbance, non-volatile residue, weight, size and maximum shrinkage.
6. From the date of first conception and early experimentation, to the filing of the patent application on November 21, 1997, we worked diligently to develop the claimed invention.
7. All of the activity referred to herein took place in the United States.



Brian G. Morin, Ph.D.

Subscribed and sworn to before me this 27<sup>th</sup> day of August 2003.

  
Notary Public

CHRISTI J. RODDY  
NOTARY PUBLIC  
COMMISSION EXPIRES  
JULY 29, 2005

Above Pan

<sup>cleaner</sup> Fabric was run on the MRC tester frame with no chemical additives. Speed was 5 yards per minute. Temperature was varied. Fabric was cut on the Keyseal machine and washed in the cleaner business pilot laundry facility. The fabric was tested clean and dirty for particles.

Testing was completed on October 1, 1996, and is recorded here

Temp	Test (Unwashed) (million particles/sq. m)	(Washed)	
250°F	30.1	12.7	10.6
275	45.1	10.1	8.46
300	58.0	25.1	
325		37	
350	162.0	30.7	16.1
375	225.5	44	
400		60	22.2

Procedure II includes DI rinses at the end of the wash.

Procedure I,

Procedure II

Time and temperature in the tester are very important for trimer production. SEM pictures indicate very few particles on 250° fabric, increasing with increasing temperature with distinct hexagonal <sup>trimer</sup> crystals on the 400° fabric.

Signature.....

Witness.....

Exhibit A-1

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MILLIKEN RESEARCH CORPORATION

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TO: JERRY COGAN  
FROM: BRIAN MORIN *BSM*  
SUBJECT: ACTIVITY REPORT [REDACTED]  
DATE: [REDACTED]  
CC: DAN MCBRIDE, BRENDA WENTZ

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- 2. Tenter Temp. Pilot Trials: There is a linear increase in particles with tenter temperature between 250 and 400 degrees F (250 degree = 15 million/sq. m., 400 degree = 60 million/sq. m). SEMs clearly show heat generated trimer particles. Competitive fabrics tested for heat history all show processing above 325 degrees.